REMARKS/ARGUMENTS

Applicants have amended Claims 1 and 6 and have added a new Claim 14. No new matter was added by these amendments. Claims 1 and 3-14 remain in this application. Reconsideration of this application is requested in view of the above amendments and these remarks and arguments.

The Examiner has rejected Claims 1, 3 and 5-13 under 35 U.S.C. 103(a) as being unpatentable over Steeves (USPN 6,570,487) in view of Meier (USPN 5,294,931). Applicants traverse these rejections because the combined teachings of Steeves and Meier fail to teach or suggest all of the limitations recited in amended Claims 1 and 6 and included by dependency in Claims 3-5 and 7-14. In general, independent Claims 1 and 6 have been amended to more clearly reflect some distinguishing features of the claimed inventions. For example, the recitations of Claims 1 and 6 are directed respectively to a method and a device supporting a tag that while transmitting data on a selected channel continuously monitors a carrier signal for a second condition based on received power level and if that condition is satisfied while the tag is transmitted its data on the selected channel, the tag then ceases transmitting the data on that selected channel. As explained in more detail below, neither Steeves nor Meier discloses such a tag device that has the capability of continuously monitoring a carrier signal while it is transmitting data or that further has the capability of ceasing its transmission of data if it detects (during the transmitting of its data) a second condition based on received power level.

With respect to what is disclosed in the Steeves reference, Applicants respectfully disagree with the Examiner's summary of that reference. The Examiner states that Steeves discloses "a tag reader system wherein figure 3, illustrates the step of choosing a time slot for data transmission based on RF traffic (see column 8, lines 5-17); thereby reading on 'choosing a channel'; and further wherein if a first condition is met, said first condition being that the request for information is relevant to a particular tag, the tag will continuously transmit data until a confirmation signal is received (column 9, lines 32-35), reading on 'and continuously transmitting data if a first condition is satisfied'; and further wherein if a second condition is met,

said second condition being that the request for information is not relevant to a particular tag, the control logic section of the tag device generates a single outgoing discharge signal and ceases further transmission, reading on 'ceasing transmitting data if the second predetermined condition is satisfied'".

As will be illustrated by explicit language taken from the Steeves reference, the above summary is not in line with what is actually disclosed in Steeves. By reference to figure 3 and the accompanying language in the specification, Steeves discloses a tag 151 that "is normally in a low-power quiescent stand-by state in which tag 151 monitors the RF environment for an activation signal from a reader" (col. 7, lines 40-42). "The activation signal . . . causes each such tag to change from quiescent stand-by state to an active state. Once in active state, the tags evaluate 303 the request sent by the reader" (col. 7, lines 44-49). "If the request is relevant, the tag assemble 305 a packet of data . . . [and] if the requested data are voluminous . . . the data are formed into several packets for individual transmission" (col. 7, lines 61-62 and 67 to col. 8, lines 1-2). "Once the tag has assembled one or more packets of data, the tag receiver . . . monitors 307 the RF traffic on the transmission channel . . . [and] calculates 308 time slot availability for transmission of its data" (col. 8, lines 5-7 and 9-10). "Once a sufficiently quiet RF environment is detected, the tag wishing to transmit begins transmission of its message. . . " (col. 9, lines 14-15) in a time slotted transmission process.

More specifically, Steeves states "based on the observed passive/active RF environment, the tag randomly selects 309 timeslots for transmission and waits 310 for that selected time slot. At the allocated time, the tag transmits 311 a packet of data (using the two active cycles described above) and checks 312 for an acknowledgement signal from the reader indicating that the data packet was received. If so, a check 312 is made to see whether there are additional packets to transmit, in which case processing returns to 307 to enable transmission as described above. If the acknowledgement signal is not received, processing returns to 310 so that the current packet may be transmitted at the next available time slot. After all of the packets have been successfully transmitted, processing returns to 306 and the tag is put back in the quiescent

low-power stand-by state" (col. 9, lines 23-37). Note that Steeves (and Meier) do not *continuously* monitor the received carrier signal for transmission conditions during data transmission. Steeves disclosed device only monitors transmission conditions before and after data packet transmission, not during data packet transmission. Meier's disclosed device only monitors the received carrier signal before data packet transmission (see below), not during data transmission. *Neither Steeves nor Meier's possess any means for ceasing data transmission at any (e.g., intra-data symbol or bit) point during the transmission of a data packet, as claimed embodiments of the present invention advantageously incorporates.*

According to the above language from Steeves, the Examiner is incorrect in stating that "wherein if a first condition is met, said first condition being that the request for information is relevant to a particular tag, the tag will continuously transmit data . . . and further wherein if a second condition is met, said second condition being that the request for information is not relevant to a particular tag, the control logic section of the tag generates a single outgoing discharge signal and ceases further transmission." Steeves does not teach the tag generating a discharge signal to cease further transmission if the request for information is not relevant to the tag, as the Examiner argues. Instead (and quite clearly based on the language therein) Steeves discloses that the tag *never even begins transmission of data* if the request is not relevant (see 304 in Figure 3 of Steeves), but simply remains in its normal quiescent low-power stand-by state. Moreover, the tag does not at any point generate a discharge signal to cease transmission of its data, but continues to transmit its data until all of the packets have been successfully transmitted, upon which time the tag then returns to the quiescent low-power stand-by state.

Based on the above reading of Steeves, the tag disclosed therein monitors the reader signal for a first condition (i.e., a received request is relevant) but the tag does not subsequently (while it is transmitting its data on the selected channel) continuously monitor a carrier signal for a second condition based on received power level and then cease its transmission of the data on the selected channel if the second condition is satisfied during the transmitting of the data on the selected channel, as is recited in Claims 1 and 6 and included by dependency in Claim 3-5 and 7-

14. Instead, the tag disclosed in Steeves does not monitor the reader signal at all during the transmission of its data packet, and continues to transmit its data until all of the packets have been successfully transmitted upon which time the tag returns to its quiescent low-power stand-by state where it resumes its monitoring of the RF environment for an activation signal from the reader. The reader device in Steeves cannot cause the halting of tag data transmission at any point in time, as opposed to claimed embodiments of the present invention.

The Meier reference discloses a system having an interrogation device and a transponder system with multiple transponders (see FIG. 5 and FIG. 6). During discrete time periods, the interrogation device transmits an "RF interrogation pulse" to the transponders. By way of illustration with respect to FIG. 5 for instance, an interrogation device 10 transmits to two transponders 30 and 32 "commencing at the point in time t_0 and having the duration of Δt . . . a first RF interrogation pulse" (col. 4, lines 56-60). "After the end of the time period Δt the first RF interrogation pulse ends and after a pause of a predetermined duration. . . [the interrogation device] will start transmitting a further interrogation pulse" beginning at a time t_1 and having a duration of Δt (FIG. 5; col. 5, lines 26-30). "The transponders 30 and 32 are not provided with a power supply in the form of a battery: they derive their driving power form [sp.] the respectively received RF interrogation pulse. This involves the rectification of this pulse and charging of a capacitor by means of the voltage produced by rectification. The two transponders 30 and 32 simultaneously receive the RF interrogation pulse . . . so that in both transponders the charging of the capacitor, functioning as a power source, starts at the point in time t0" and continues until "the expiry of the pulse duration Δt" (col. 4, line 59 to col. 5, lines 1-3 and 14-15).

In this particular example, "since the transponder 30 is at a shorter distance from the interrogation device 10 than the transponder 32, the transponder 30 receives the RF interrogation pulse with a greater field strength so that accordingly furthermore the voltage produced by rectification has a higher value as well then that in the transponder 32. The consequence is that the capacitor utilized as a power source in the transponder 32 charges up to a higher value than the transponder 32 . . . and it is seen that in the transponder 30, the capacitor voltage will, after

the expiry of the pulse duration Δt, have a voltage value which falls within the predetermined voltage range . . . thereby enabling transponder 30 to transmit an answer signal . . . In the transponder 32, the voltage . . . will only reach a value . . . which does not fall within the predetermined voltage range . . . thereby prohibiting the transmission of the answer signal by transponder 32. . . For a description of the present situation it is assumed that the capacitors in the transponder 30 and 32 are discharged so that the charging thereof by the voltage, which is produced by rectification of the RF interrogation pulse, starts at the voltage value 0 again" e.g., at the time t_1 (col. 5, lines 3-25 and 31-35).

Meier's states that "After the end of the RF interrogation pulse the oscillation in the said resonant circuit also dies down and the RF threshold detector 48 sends a signal to the control logic system 50 via its output 54, when the RF oscillation has sunk below a predetermined threshold value. Simultaneously, the RF threshold detector 48 sends a signal to the window comparator via its output 56, such signal causing the window comparator 46 to check the charge voltage at the capacitor 44 to see if it has a value between the threshold values S_1 and S_2. If this is the case, the window comparator 46 will feed a signal to the control logic system indicating the fulfillment of this condition. The control logic then produces an information signal at its output 58 containing a code group representing the identity of the transponder 30, such information signal being transmitted via the antenna 38 so that it may be received by the interrogation device. After the end of the information signal the control logic system 50 will provide a further signal at its output 60, such signal functioning to discharge the capacitor 44." (col. 7, lines 2-23). Thus, Meier's only teaches evaluating the charge voltage before data packet (or "information signal") transmission. Meier's disclosed device will always transmit a fixed duration information signal (determined solely by the control logic 50 state machine based on the fixed length of the information signal), and it cannot cease transmitting during data transmission for any reason (or change in conditions), in direct contrast to claimed embodiments of the present invention.

Furthermore, neither Steeves nor Meier teach any cases of receiving a continuously transmitted carrier signal (as in new Claim 14). The carrier signal disclosed in Meier is *pulsed* at the beginning of tag interrogation (i.e., not present during tag data packet transmission), and the carrier signal in Steeves' invention is also not transmitted *during* tag data packet transmission, making it not possible for either invention to monitor the received carrier power level for a second predetermined condition during data transmission.

Based on the above reading of Meier, the tag disclosed therein does not monitor the carrier signal (in this case the interrogation pulse) but monitors its own capacitor voltage value for a first condition (i.e., that the voltage value falls within a predetermined voltage range) before data transmission, and the tag does not subsequently (while it is transmitting its data on the selected channel) continuously monitor a carrier signal for a second condition based on received power level and then cease its transmission of the data on the selected channel if the second condition is satisfied during the transmitting of the data on the selected channel, as is recited in Claims 1 and 6 and included by dependency in Claim 3-5 and 7-14. Instead, during the transmission of its answer signal, the transponder disclosed in Meier does not monitor the interrogation pulse because there is no interrogation pulse during this time. During the time a transponder is transmitting an answer signal there is a pause in transmission from interrogation device to allow the transponder time to transmit its answer signal and then discharge its capacitor so that it is ready to receive the next interrogation pulse.

The Examiner also states that "Meier further teaches that in the instance where the power level of a received carrier signal exceeds a certain threshold value, reading on 'second predetermined condition is satisfied', the tag device will not operate to transmit data." Note that this feature of Meier's disclosed system is not the same as the step of ceasing the transmitting of data in the Applicant's invention, since data transmission will not even begin in Meier's invention if the capacitor voltage exceeds a threshold value (as described above).

For all of these reasons, Applicants believe that the combined teachings of Steeves and Meier do not render obvious Claims 1, 3 and 5-13 and ask that the Examiner remove the §103 rejections of these claims based on these references.

The Examiner has further rejected Claim 4 based on the combined teachings of Steeves, Meier and Carrender. However, just as with Steeves and Meier, Carrender does not disclose a tag that (while it is transmitting its data on the selected channel) continuously monitors a carrier signal for a second condition based on received power level and then cease its transmission of the data on the selected channel if the second condition is satisfied during the transmitting of the data on the selected channel, as is recited in Claim 1 and included by dependency in Claim 4. Therefore, Applicants further request that the Examiner remove the §103 rejection of Claim 4 based on the Steeves, Meier and Carrender references.

The Applicants believe that the subject application, as amended, is in condition for allowance. Such action is earnestly solicited by the Applicants.

In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

Respectfully submitted,

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